



Reactor Oversight Process

Performance Indicator Program

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NRC's Mission

- To license and regulate the nation's civilian use of nuclear materials in order to ensure the adequate protection of public health and safety, promote the common defense and security, and to protect the environment.



NRC's Mission

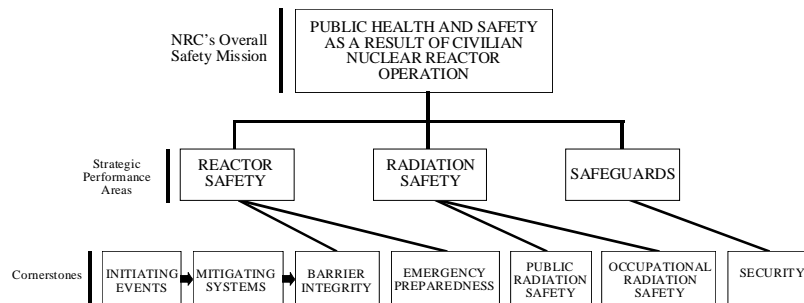
- Strategic Goals

- Prevent the occurrence of any nuclear reactor accidents.
- Prevent the occurrence of any inadvertent criticality events.
- Prevent the occurrence of any acute radiation exposures resulting in fatalities.
- Prevent the occurrence of any releases of radioactive materials that result in significant radiation exposures.
- Prevent the occurrence of any releases of radioactive materials that cause significant adverse environmental impacts.

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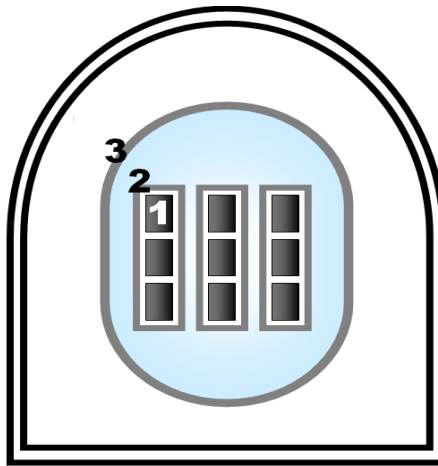


Regulatory Framework



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- Barrier Concept



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- Reactor Oversight Process
 - The NRC’s program to inspect, measure, and assess the safety performance of commercial nuclear power plants and to respond to any decline in performance.
- Standard inspection effort
- Additional inspection based on performance

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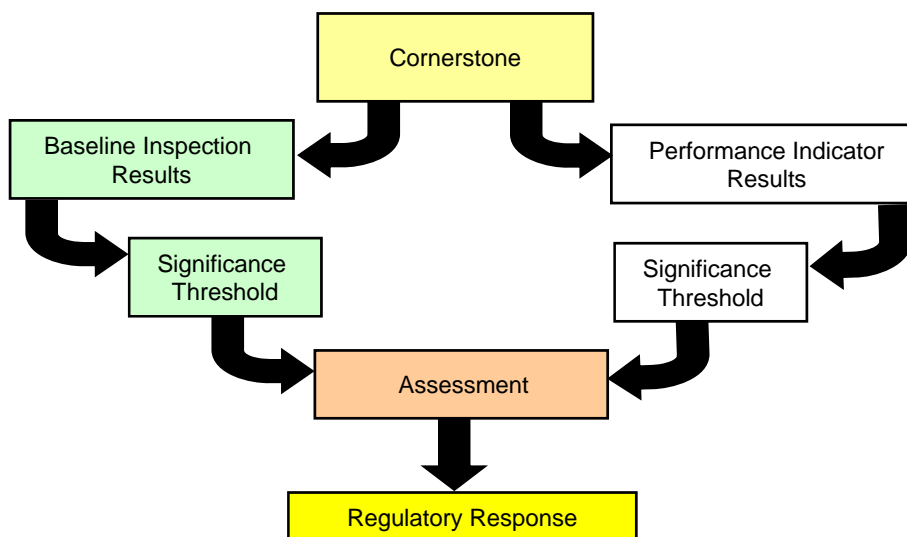
Performance Indicators

- Performance indicator data voluntarily collected by reactor facility, reported to NRC.
- Serve as inputs to assessment and additional inspection efforts.
- Provides a broad sample of data to assess reactor facilities performance in each cornerstone area.
- Objective thresholds establish the level of regulatory engagement appropriate to reactor facility performance in each cornerstone area.
- Inspection to verify performance indicator data.

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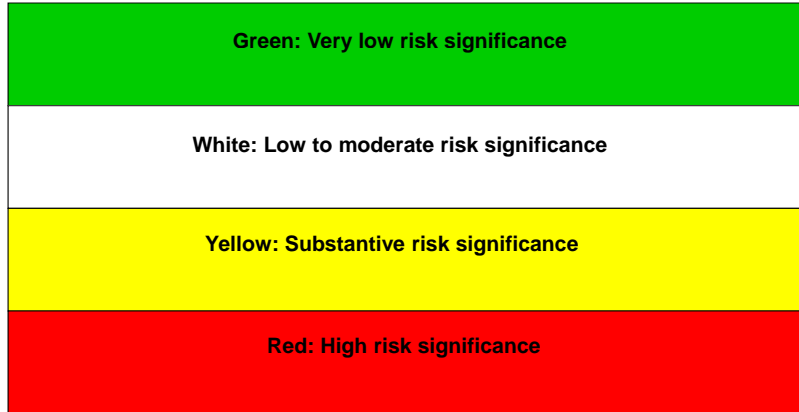


ROP Overview

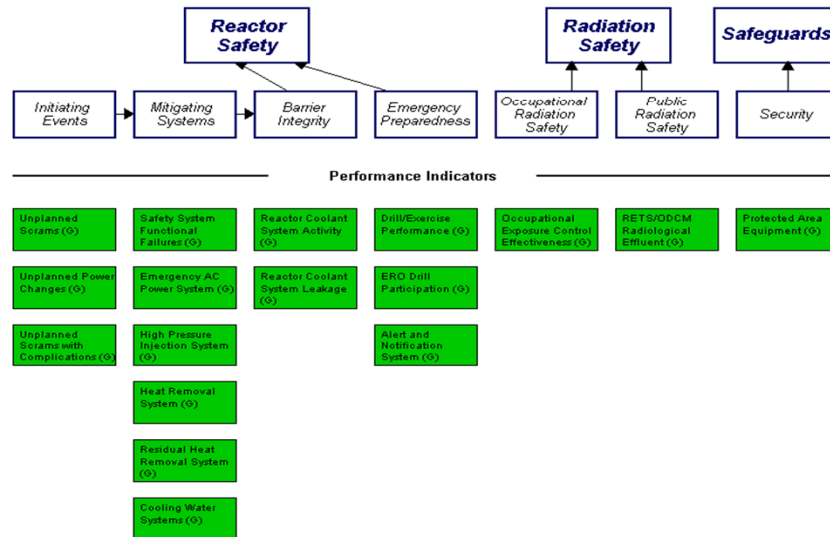


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Inspection Results



Performance Indicators



Indicator Thresholds

Green: performance within an expected performance level where the associated cornerstone objectives are met

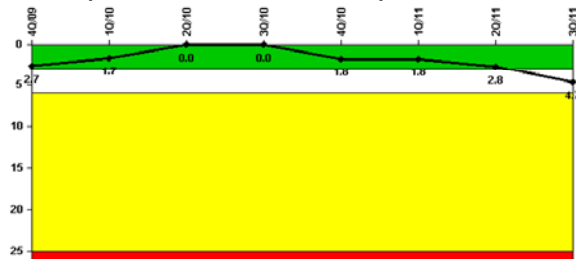
White: performance outside an expected range of nominal utility performance but related cornerstone objectives are still being met

Yellow: related cornerstone objectives are being met, but with a minimal reduction in the safety margin

Red: significant reduction in safety margin in the area measured by the performance indicator

Indicator Example

Unplanned Shutdowns per 7,000 Hours



Thresholds: White > 3.0 Yellow > 6.0 Red > 25.0

Notes

Unplanned Scrams per 7000 Critical Hrs	4Q/09	1Q/10	2Q/10	3Q/10	4Q/10	1Q/11	2Q/11	3Q/11
Unplanned scrams	0	0	0	0	2.0	0	1.0	2.0
Critical hours	2209.0	2159.0	2184.0	2208.0	1022.1	2159.0	2155.8	2141.4
Indicator value	2.7	1.7	0	0	1.8	1.8	2.8	4.7

Assessment

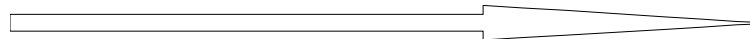
- Performance indicators and inspection findings both considered for an overall assessment of licensee performance
- Action Matrix used to characterize past/current performance and determine NRC response

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Action Matrix Concept

Licensee Response	Regulatory Response	Degraded Cornerstone	Multiple/Rep. Degraded Cornerstone	Unacceptable Performance
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Column 1 Column 2 Column 3 Column 4 Column 5



- Increasing safety significance
- Increasing NRC inspection efforts
- Increasing NRC/facility management involvement
- Increasing regulatory actions

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Action Matrix

	Licensee Response Column (Column 1)	Regulatory Response Column (Column 2)	Degraded Cornerstone Column (Column 3)	Multiple-Repetitive Degraded Cornerstone Column (Column 4)	Unacceptable Performance Column (Column 5)	IMC 0350 Process ¹
RESULTS	All assessment inputs (performance indicators and inspection findings) green; Cornerstone objectives fully met	One white input, or Two white inputs (in different cornerstones) in a strategic performance area; Cornerstone objectives met with minimal degradation in safety performance	One degraded cornerstone (2 white inputs or 1 yellow input), or Any 3 white inputs in a strategic performance area; Cornerstone objectives met with moderate degradation in safety performance	Repetitive degraded cornerstone; Multiple degraded cornerstones; Multiple yellow inputs, or One red input; Cornerstone objectives met with longstanding issues or significant degradation in safety performance	Overall unacceptable performance; Plants not permitted to operate within this band; Unacceptable margin to safety	Plants in a shutdown condition with performance problems are placed in the IMC 0350 process
RESPONSE	Regulatory Performance Meeting Licensee corrective action NRC Inspection Regulatory Actions ²	None Licensee corrective action Risk-informed baseline inspection program	Branch Chief or Division Director meets with licensee Licensee root cause evaluation and corrective action with NRC oversight Baseline and supplemental inspection (IP 95001)	Regional Administrator or designee meets with senior licensee management Licensee cumulative root cause evaluation with NRC oversight Baseline and supplemental inspection (IP 95002)	EDO/DEDO or designee meets with senior licensee management Licensee performance improvement plan with NRC oversight Baseline and supplemental inspection (IP 95003)	EA/EDO or designee meets with senior licensee management Licensee performance improvement & restart plan with NRC oversight Baseline and supplemental as practicable Special inspections per restart checklist
COMMUNICATION	Assessment Letters Annual Involvement of Public Stakeholders Commission Involvement	Branch Chief or Division Director reviews and signs assessment letter w/ inspection plan Various public stakeholder options involving the senior resident inspector or Branch Chief	Division Director reviews/signs assessment letter w/ inspection plan Various public stakeholder options involving the BC or DD	Regional Administrator reviews/signs assessment letter w/ inspection plan Regional Administrator or designee discusses performance with senior licensee management Possible Commission meeting if licensee remains for 3 years	Regional Administrator reviews/signs assessment letter w/ inspection plan EDO/DEDO or designee discuss performance with senior licensee management Commission meeting with senior licensee management within 6 months	N/A; RA or 0350 Panel Chairman review/sign 0350-related correspondence N/A; 0350 Panel Chairman conducts periodic public status meetings Commission meetings as requested; Restart approval in some cases
INCREASING SAFETY SIGNIFICANCE →						

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References

- Manual Chapter 0608, "Performance Indicator Program"
- Manual Chapter 0308 (Attachment 1), "Technical Basis for Performance Indicators"
- Inspection Procedure 71151, "Performance Indicator Verification"
- Inspection Procedure 71150, "Discrepant or Unreported Performance Indicator Data"
- NEI 99-02, "Regulatory Assessment Performance Guideline," (Revision 6)
- SECY-99-007, "Recommendations For Reactor Oversight Process Improvements"
- Management Directive 8.13, "Reactor Oversight Process"
- Regulatory Information Summary 2000-08, "Voluntary Submission Of Performance Indicator Data"
- Performance Indicator Data Web-site:
http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/pi_summary.html

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